

DRAWING AMENDMENTS

The Examiner objected to the drawings as not showing the clutch called for in the claims. A revised Fig. 3 is being submitted herewith, which has added the element 100 to schematically indicate the location of the clutch as described at Paragraph [0052] of US Patent Publication 2008/0246328 of the present application.

REMARKS

The Allowable Subject Matter

The Examiner indicated that the subject matter of claims 39 and 40 was allowable. Claim 39 has been rewritten in independent form. Claim 40 depends from claim 39. Additionally new claim 67 depends from claim 39.

Also Applicants have added independent claim 57 which also includes the allowable subject matter originally found in dependent claim 39, with slightly modified language in the other elements of the claim as compared to claim 39. Claims 58-66 depend from claim 57.

Accordingly it is believed that claims 39-40 and 57-67 are now in condition for allowance.

The Substantive Rejections

Additionally Applicants submit that there are two other aspects of the invention which should be independently allowable, as found in independent claims 31 and 48.

Independent Claim 31 (Transversely Mounted Engine In A Stabilizer Machine, Connected To Single Sided Drive Via Clutch)

The Examiner has rejected Claim 31 under 35 USC Sec. 103 based upon U.S. Patent No. 5,354,147 to Swisher in view of German document 719441. Claim 31 has been amended in several respects. That rejection as applied to amended Claim

31 is respectfully traversed, because as explained below it would not have been obvious to combine the teachings of these two references, and even if they were combined they would not result in the invention of amended claim 31.

As the U.S.P.T.O. has pointed out in its recently published Examination Guidelines Update (75 Fed. Reg. No. 169, page 53643 (Sept. 1, 2010) regarding the KSR decision:

“Predictability as discussed in KSR encompasses the expectation that prior art elements are capable of being combined, as well as the expectation that the combination would have worked for its intended purpose. An inference that a claimed combination would not have been obvious is especially strong where the prior art’s teachings undermine the very reason being proffered as to why a person of ordinary skill would have combined the known elements.”
Citing *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314 (Fed. Cir. 2009).

The problems addressed by the present invention, and other large prior art stabilizer machines such as the Swisher ‘147 machine cited by the Examiner, are completely different from those addressed by a small hand propelled device like that of the German reference. Because of those vast differences in the context of the devices a person of skill in the art would not assume that a machine architecture used in the small hand propelled device of the German reference would be applicable to a huge self-propelled road stabilizing machine like that of Swisher ‘147 or that of the present invention. The incompatibility of the teachings of the German

reference with the technology of the Swisher '147 reference is shown by the following table comparing the fundamental architectures of the two machines:

Swisher '147	German Reference (DE 719441)
Very large self propelled stabilizer machine for road building. Large elongated multi-cylinder engine capable of powering a road building machine has large footprint and placement options on the machine frame are limited. This is especially true if it is attempted to orient the engine transversely in the frame.	Small scale hand propelled device on scale of a hand propelled lawn mower. Small probably single cylinder engine has small footprint with approximately equal length and width (See Figs. 1 and 2 of DE 719441) and either longitudinal or transverse location on frame is of no consequence.
Due to its size the working drum must operate at rotational speed much lower than the engine, thus requiring gear reduction. Because gear reduction occurs in Swisher '147 prior to the drive chains (via transmission 58 and differential 62), the high torque to be transferred to the drum requires drive chains on both sides of drum.	High speed drum with no gear reduction between motor and drum, again like a common lawn mower. Low torque transferred by engine allows single side drive.
Connection of engine to drum is through power take-off 64 and an extensive series of shafts, gears, pulleys and chains. No discussion of clutch.	Engine drives drum at all times via direct belt connection, with no clutch, again like a common lawn mower.

If one starts with the Swisher '147 device as suggested by the Examiner, and then is aware of the German reference showing a small scale hand propelled machine using a direct belt drive from an engine output shaft to a drum, one would not find it obvious that the teaching of the German reference could be applied to the Swisher device to arrive at the invention of amended Claim 31. The following are

just some of the features of amended claim 31 that the person of ordinary skill in the art would not derive from the combination of Swisher '147 and the German reference:

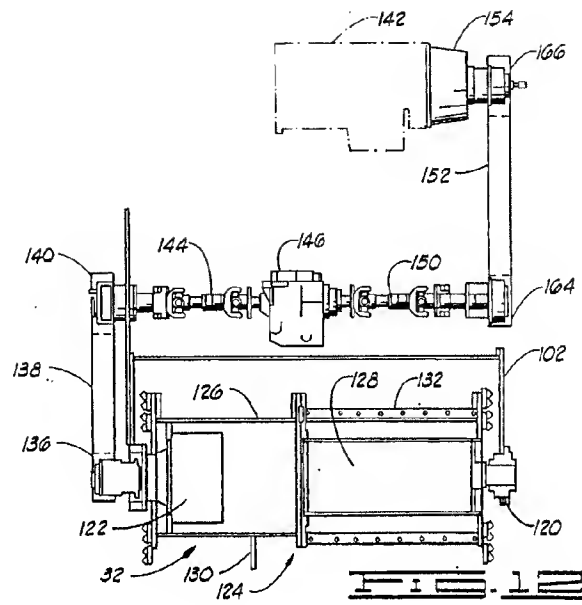
1. Transverse orientation of a large engine capable of powering a self propelled stabilizing machine. (German reference's orientation of a small single cylinder engine does not teach anything about how to solve the problems associated with transverse placement of a large engine capable of powering a self propelled stabilizing machine.)
2. Driving drum with only one drive unit on one side of the drum. (Swisher's high torque drive requires a two sided drive, and German reference does not teach how to resolve that problem. A single sided drive would not satisfactorily transfer the high torque that results when the gear reduction is done upstream of the drive chains as Swisher does.)
3. A clutch between the engine and the power transmission device. Neither Swisher nor the German reference discuss having a clutch between a transversely mounted engine and the power transmission device.

The Prior Art Teaches Away From the Invention

Furthermore, the prior art taken as a whole teaches that a simple small scale arrangement like that of the German reference is not applicable to large scale road

construction equipment. The German reference was published in 1942. Simple hand propelled direct drive devices like the German reference have been known for decades. Yet look at the complexity of the drive systems for stabilizer type construction equipment used by the major construction equipment manufacturers over those decades:

1. The Swisher '147 system (filed in 1993) (then owned by the CMI organization, now part of Caterpillar) primarily relied upon by the Examiner itself shows the complex arrangements that had been believed necessary by those skilled in the art to power a stabilizer drive;
2. The WO96/24725 system (filed in 1995) cited by applicants in [0003] of the present application (which is a system of applicants' assignee, Wirtgen GmbH, a world leader in stabilizer machines) placed the engine itself on the pivoting arms, which required all the complexity of flexible fluid connections to the engine;
3. Swisher 5,190,398 system (filed in 1991) (another CMI/Caterpillar machine) also cited by the Examiner went to the complex arrangement shown Fig. 12 of that application as reproduced below:



If it were so obvious that a transverse engine could be directly connected co-axially with the belt drive why did Swisher '398 not do that instead of what is shown in his Fig. 12? Why did Swisher '398 not connect his engine 142 directly to his drive sheave 140? Because it clearly was not an obvious solution to those skilled in the art due to problems like those discussed above.

Accordingly it is respectfully submitted that the combination of amended claim 31 would not have been obvious from the cited references.

Claims 32 and 36-38 depend from amended claim 31, and should be allowed for the same reasons as claim 31, plus the further reason that the additional

features of those claims in combination with the features of amended claim 31 are not taught by the cited references.

Independent Claim 48 (Coupling Device Non-Rotatably Connecting Two Pairs Of Lever Arms)

The Examiner has rejected Claim 48 under 35 USC Sec. 103 based upon U.S. Patent No. 5,354,147 to Swisher in view of U.S. Patent No. 2,111,134 to Allin. That rejection is respectfully traversed for the following reasons.

Claim 48 includes at least the following features which are not taught by the Swisher reference:

1. Swisher does not teach a combustion engine fixed to the chassis between the pivot arms.
2. Swisher does not teach the combustion engine fixed to the chassis behind the forward running gear and in front of the rear running gear.
3. Swisher does not teach the lifting linkage including:

“first and second pairs of lever arms located on opposite sides of the chassis, the first pair being connected to the second pair in a non-rotatable manner by a coupling device extending parallel to the drum axis of the working drum;

first and second piston cylinder units connected between the chassis and the first and second pairs of lever arms; and

first and second pull rods connected between the first and second pairs of lever arms and the working drum.”

Those missing features are not taught by the Allin reference. Allin is completely irrelevant to the first two features. And although Allin does teach the use of first and second pairs of lever arms, the pairs of lever arms of Allin are not “connected to each other in a non-rotatable manner by a coupling device extending parallel to the drum axis of the working drum” as required by Claim 48. This feature was apparently overlooked by the Examiner and has not been addressed at all in the office action.

The first and second pairs of lever arms of Allin are referred to by Allin as “bell cranks” and are identified by the numeral 34 in Allin. As can be seen in Fig. 4 of Allin, the two bell cranks 34 are not connected together at all. In fact it would be impossible to connect them because as seen in Fig. 3 of Allin the scoop 2 of Allin must be able to pass into the lateral space between the two bell cranks 34.

Accordingly it is respectfully submitted that Claim 48 should be allowed over the cited references.

Dependent claim 49 further requires that extension of the piston cylinder unit raises the working drum. Allin shows the opposite.

New dependent claims 50-56 depend from claim 48 and have been added to more completely claim the invention. They are submitted to be allowable for the same reasons as given above for claim 48, and for the additional reason that none of the cited references teach the additional features of these claims in combination with the invention of claim 48.

Drawings

The Examiner objected to the drawings as not showing the clutch called for in the claims. A revised Fig. 3 has been submitted herewith adding a simple schematic representation of the location of the clutch between the output shaft and the power transmission device, as was originally described in Paragraph [0052] of the specification. Also Paragraph [0052] has been amended to add a reference numeral 100 as shown in Fig. 3. These changes show only what was already described in Paragraph [0052] and thus there is no new matter. Approval of the drawing changes is respectfully requested.

Conclusion

In summary, it is believed that the arguments and amendments set forth above are sound, and accordingly reconsideration of the application is requested along with an early indication of the allowance of claims 31-32, 36-40 and 48-67.

Respectfully submitted,

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